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L2: Entry 10 of 228

File: USPT

Nov 9, 2004

DOCUMENT-IDENTIFIER: US 6816885 B1

TITLE: Method and system to handle large volume of E-mail received from a plurality of senders intelligently

Brief Summary Text (25):

To achieve the said objective this invention provides in a computing system a method to handle large volume of e-mail received from a plurality of senders intelligently, by automatically processing each email based on a pre-determined classification system and stored information, said method comprising the steps of: receiving and sending the electronic mails, parsing the electronic mail header to capture keywords for the purpose of identifying the sender, the subject and specific key words and/or phrases, parsing the electronic mail body including attachments if any, for keywords and/or phrases for purpose of categorizing the e-mail for response, storing the said received emails in a personalized email database (PED), analyzing the emails stored in the PED for identifying co-relations among received e-mails using an expert system (ES) with machine learning capabilities to assist the user in analyzing and preparing replies, preparing a reply template using a reply template generator (RTG), storing the email replies in said PED, configuring said PED and said ES using an personalized email database configurator (PEC) for updatation.

Brief Summary Text (37):

In a computing system, a system to handle large volume of e-mail received from a plurality of senders intelligently, by automatically processing each email based on a pre-determined classification system and stored information, comprising: means for receiving and sending the electronic mails, means for parsing the electronic mail header to capture keywords for the purpose of identifying the sender, the subject and specific key words and/or phrases, means for parsing the electronic mail body including attachments if any, for keywords and/or phrases for purpose of categorizing the e-mail for response, means for storing the said received emails in a personalized email database (PED), means for analyzing the emails stored in the PED for identifying co-relations among received e-mails using an expert system (ES) with machine learning capabilities to assist the user in analyzing and preparing replies, means for preparing a reply template using a reply template generator (RTG), means for storing the email replies in said PED, means for configuring said PED and said ES using an personalized email database configurator (PEC) for updatation.

Detailed Description Text (5):

searching of mailbox (MB) and new knowledge base (NKB) in personalized email database (PED) based on configured parameters including message type (one-liner, short, medium, long) subject, sender, receipient, keyword, thread; or combination thereof, to extract information for inclusion in the reply

Current US Original Classification (1):709/206Current US Cross Reference Classification (1):709/207

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US006816885B1

(12) **United States Patent**
Raghunandan

(10) Patent No.: **US 6,816,885 B1**
(45) Date of Patent: **Nov. 9, 2004**

(54) **METHOD AND SYSTEM TO HANDLE
LARGE VOLUME OF E-MAIL RECEIVED
FROM A PLURALITY OF SENDERS
INTELLIGENTLY**

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(73) Assignee: **International Business Machines
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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 713 days.

(21) Appl. No.: **09/666,230**

(22) Filed: **Sep. 21, 2000**

(51) Int. Cl.⁷ **G06F 15/16**

(52) U.S. Cl. **709/206; 709/207**

(58) Field of Search **709/205, 206,
709/207; 725/47**

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,745,559 A * 5/1988 Willis et al. 705/37
5,930,471 A * 7/1999 Milewski et al. 709/204
5,948,058 A 9/1999 Kudoh et al.
6,278,996 B1 * 8/2001 Richardson et al. 707/6
6,343,311 B1 * 1/2002 Nishida et al. 709/203
6,356,633 B1 * 3/2002 Armstrong 379/265.11
6,424,997 B1 * 7/2002 Buskirk et al. 709/206
6,442,592 B1 * 8/2002 Alumbaugh et al. 709/206
6,463,462 B1 * 10/2002 Smith et al. 709/206
6,507,866 B1 * 1/2003 Barchi 709/207

6,522,727 B1 * 2/2003 Jones 379/88.23
6,529,942 B1 * 3/2003 Gilbert 709/206
6,542,923 B2 * 4/2003 Nguyen 709/206
6,609,138 B1 * 8/2003 Merriam 707/204
6,654,779 B1 * 11/2003 Tsuei 718/101
2001/0029455 A1 * 10/2001 Chin et al. 704/277
2001/0056366 A1 * 12/2001 Naismith 705/10
2002/0013744 A1 * 1/2002 Tsunenari et al. 705/28
2002/0091777 A1 * 7/2002 Schwartz 709/206
2002/0129275 A1 * 9/2002 Decuir 713/201
2002/0198950 A1 * 12/2002 Leeds 709/206
2003/0023721 A1 * 1/2003 Vinberg 709/224

FOREIGN PATENT DOCUMENTS

EP 0371605 A2 * 6/1990 H04L/12/54
JP 02170642 A2 2/1990
JP 04351134 A2 4/1992
JP 06162085 A2 10/1992
JP 2002073478 A * 3/2002 G06F/13/00
JP 2002091871 A * 3/2002 G06F/13/00

* cited by examiner

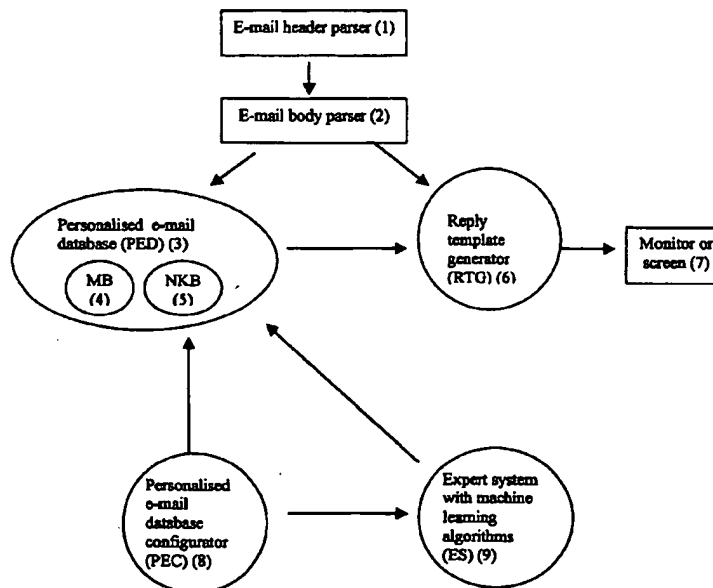
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Rao Coca; Manny Schecter

(57) **ABSTRACT**

This invention relates to a method, system and computer program product for intelligently handling a large volume of emails received from a plurality of senders by automatically parsing the email header and body to capture specified keywords and preparing a reply template using an expert system to analyze the received emails that are stored in a personalized email database.

28 Claims, 4 Drawing Sheets



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L13: Entry 15 of 173

File: USPT

Oct 5, 2004

DOCUMENT-IDENTIFIER: US 6801931 B1

TITLE: System and method for personalizing electronic mail messages by rendering the messages in the voice of a predetermined speaker

Detailed Description Text (8):

Referring now to FIG. 6, an exemplary environment 600 is illustrated. In two embodiments associated with the environment of FIG. 6, the invention makes use of one or more mail servers associated with the sender, the recipient, or both. The environment 600 comprises a sender communication device 610, a cellular base station 620, an outgoing e-mail server 630, a communications network 640, an incoming e-mail server 650, a cellular base station 660 and a recipient communication device 670. The sender uses the communication device 610 to communicate with the communications network 640, such as the public switched telephone network (PSTN), via the cellular base station 620. An outgoing e-mail server 630 associated with the sender uses a protocol such as SMTP to send e-mail messages over the Internet, or any such network, to the recipient's incoming e-mail server 650. Those skilled in the art, however, will realize that the sender and receiver may share the same mail server so that, in reality, only one mail server may be involved. The recipient's incoming e-mail server 650 uses a protocol such as Post Office Protocol (POP3) to retrieve the received e-mail message and forward it to the recipient's communication device 670 via cellular base station 660.

Detailed Description Text (9):

Referring now to FIG. 7A, a process 700 operating within the environment shown in FIG. 6 is illustrated. While creating the message payload at 210, the sender has the option of specifying that a set of basis vectors corresponding to a chosen speaker be attached to the message payload at the sender's outgoing e-mail server 640. This is done by means of an attachment indicator (AI) added at 710 to the message payload, such as to the message header. In one implementation, the AI is simply a bit (or ASCII digit) equal to 1 if the set of basis vectors is to be attached and 0 if the set of basis vectors is not to be attached to the message. In either case, only the message payload is uploaded from the sender's communication device to the sender's outgoing e-mail server 640 at 720. When the message payload is received at mail server 640, the mail server 640 checks the status of the AI at 730. If the AI is asserted, the mail server 640 attaches the set of basis vectors specified by the identifier to the message payload and forwards the combined electronic message to the next network node. Processing then proceeds at the recipient's end as explained above. The sets of basis vectors are stored at the outgoing e-mail server 640, not in either the sender's or recipient's communication device. Optionally, the set of basis vectors may be stored along with the sender's account profile at mail server 640.

Detailed Description Text (11):

Referring now to FIG. 7B, another process 705 operating within the environment shown in FIG. 6 is illustrated. It is assumed that the sender has not attached a set of basis vectors to the message payload. The message is subsequently received by the recipient's incoming e-mail server 650 at 750. The recipient, at 760, requests the message from the server 650. When the recipient sends the request to download new messages from mail server 650, the recipient also sets an optional rendering

indicator (RI) within the message retrieval request. This data element is very similar to the AI explained previously and may be a bit or single ASCII digit that controls whether or not the incoming e-mail server 650 attaches a set of basis vectors for text-to-speech processing to the received message payload. If the RI is asserted at 770, the mail server 650 attaches the set of basis vectors indicated by the identifier included in the message payload at 780. The various sets of basis vectors corresponding to different speakers are stored at the incoming e-mail server 650 rather than being stored at either the sender's or the recipient's communication device. It will be appreciated by those skilled in the art that the processes 700, 705 support the sending of different sets of basis vectors corresponding to different speakers from a single e-mail address.

Current US Original Classification (1):

709/206

Current US Cross Reference Classification (3):

709/203

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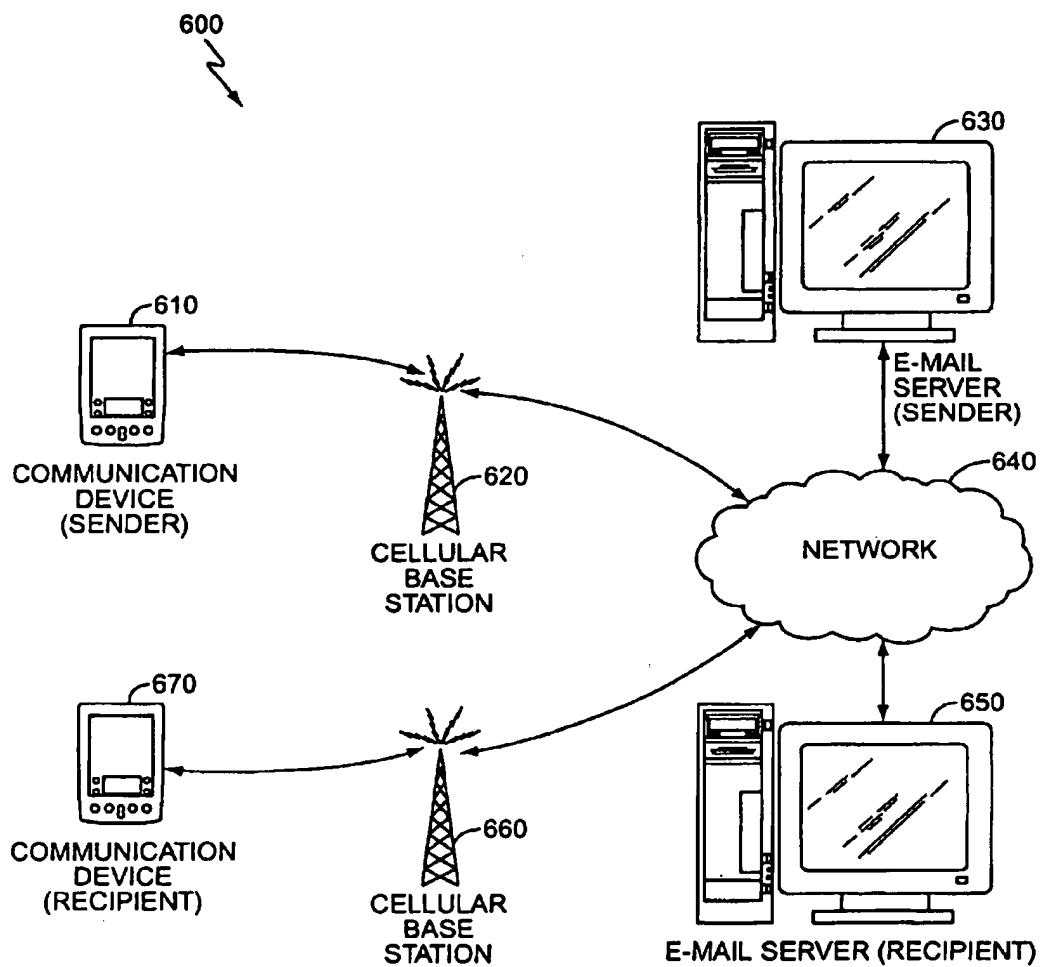


FIG. 6



US006757830B1

(12) **United States Patent**
Tarbotton et al.

(10) **Patent No.:** **US 6,757,830 B1**
(45) **Date of Patent:** **Jun. 29, 2004**

(54) **DETECTING UNWANTED PROPERTIES IN
RECEIVED EMAIL MESSAGES**

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(*) **Notice:** Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 822 days.

(21) **Appl. No.:** **09/678,688**

(22) **Filed:** **Oct. 3, 2000**

(51) **Int. Cl.⁷** **G06F 11/30; G06F 12/14**

(52) **U.S. Cl.** **713/188; 713/200; 713/201;**
709/226

(58) **Field of Search** **709/206; 713/188,**
713/200, 202, 201; 714/26, 38; 707/3

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,832,208 A * 11/1998 Chen et al. 713/201

5,889,943 A * 3/1999 Ji et al. 713/201
5,960,170 A * 9/1999 Chen et al. 714/38
6,651,249 B2 * 11/2003 Waldin et al. 717/170
6,654,787 B1 * 11/2003 Aronson et al. 709/206
2002/0198950 A1 * 12/2002 Leeds 709/206

* cited by examiner

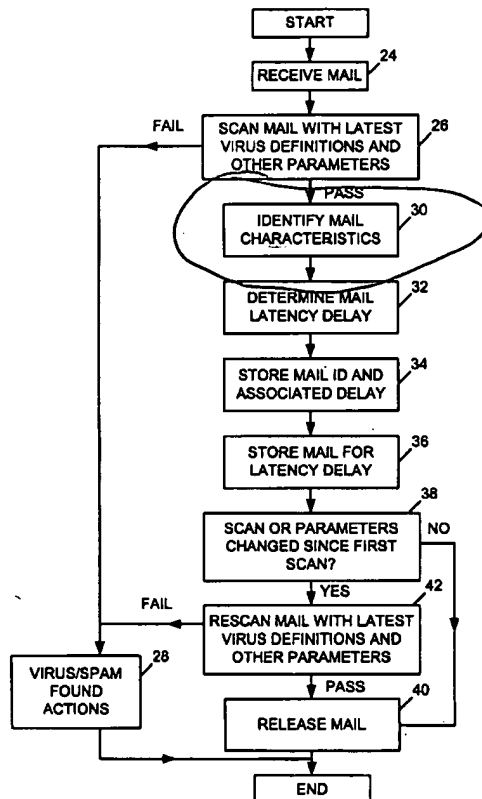
Primary Examiner—Emmanuel L. Moise

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(57) **ABSTRACT**

Received e-mail messages are subject to a minimum delay
period determined in dependence upon characteristics of the
e-mail message received. Prior to release of the e-mail
message upon expiry of the minimum delay period a check
is made that the most up-to-date anti-virus and anti-
spamming tests have been applied to the e-mail message.
Characteristics that may be used to determine the minimum
delay period applied include sender characteristics, recipient
characteristics, attachment type characteristics and message
content type characteristics.

45 Claims, 8 Drawing Sheets



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L11: Entry 3 of 25

File: USPT

Jun 29, 2004

DOCUMENT-IDENTIFIER: US 6757830 B1

TITLE: Detecting unwanted properties in received email messages

Drawing Description Text (3):

FIG. 1 schematically illustrates the passage of an e-mail message from a sender to a recipient via a plurality of mail servers including anti-virus systems;

Detailed Description Text (13):

FIG. 4 schematically illustrates a sequence of rules that may be applied to received e-mail messages in order to determined the minimum delay period to be applied. These rules may be generated and applied in a manner similar to rule based processing performed for other purposes by existing known e-mail systems (e.g. rules based processing for automatic forwarding or filing of received e-mails).

Current US Cross Reference Classification (1):709/226

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